DOCUMENT RESUME

ED 252 995 EC 171 328

AUTHOR Decker, Nan; Montandon, Betsy
TITLE Captioned Media in the Classroom.
INSTITUTION WGBH-TV, Boston, Mass. The Caption Center.
SPONS AGENCY Special Education Programs (ED/OSERS), Washington, DC.
REPORT NO ISBN-0-913072-60-5
PUB DATE 84
NOTE 48p.
AVAILABLE FROM National Association of the Deaf, 814 Thayer Ave., Silver Spring, MD 20910 ($4.50).
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Audiovisual Communications; *Captions; *Deafness; Educational Media; Elementary Secondary Education; *Hearing Impairments; Media Selection
IDENTIFIERS *Captioned Media

ABSTRACT

Intended to promote the effective use of captioned media in the education of hearing impaired students, the manual contains theoretical and historical background information about captioning, illuminates major issues in the field of captioning (e.g., edited versus verbatim captioning and the need to teach caption-reading skills), and offers instructional ideas for using captioned media to teach decoding skills, word meaning, grammar, and story structure. Sources of captioned media and a selected research bibliography are appended. (JW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED252995

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Captioned Media in the Classroom

by
Nan Decker
and
Betsy Montandon

EC171328

© WGBH Educational Foundation 1984. All rights reserved. For permissions and other rights under this copyright, contact The Caption Center of WGBH-TV, 125 Western Avenue, Boston, Massachusetts 02134.

This work was developed under a contract or grant with Special Education Programs, Office of Special Education and Rehabilitative Services, U.S. Department of Education. However, the content does not necessarily reflect the position or policy of SEP/OSERS/DOE, and no official endorsement of the materials should be inferred.

ISBN 0–913072–60–5

Published and distributed by
National Association of the Deaf
814 Thayer Avenue
Silver Spring, Maryland 20910

BEST COPY AVAILABLE

Contents

Betsy Montandon

The Whys and Wherefores of Captioned Media 1

Rationale for Captioning 2

The Development of Captioning 4

Edited or Verbatim Captions 9

Nan Decker

Captioned Media: Food for Thought 13

Introduction 14

A Review: Skills and Concepts which may be Taught through Captioned Television 17

Decoding Skills, Word Meaning and Grammar 20

Story Structure 22

- Setting 24
- The Episode 26
- • Sequencing 26
- • Conflict 27
- • Implied Meaning in The Episode 28
- • Characterization 29
- • Theme 31

Conclusion 32

Sources of Captioned Media 34

Bibliography 38

Acknowledgements

For their enthusiasm, help, and support in carrying out this project, special thanks are due to:

Governor Baxter
School for the Deaf,
Portland, ME

Willie Ross
School for the Deaf,
Longmeadow, MA

Rhode Island
School for the Deaf,
Providence, RI

The Learning Center
for Deaf Children,
Framingham, MA

Boston University,
Boston, MA

New York University,
New York, NY

Western Maryland College,
Westminster, MD

The Multi-level Captioning Project was funded by the Office of Education's Handicapped Media Services and Captioned Films Program in order to develop a "model" for the effective use of captioned media in the education of hearing-impaired students. One of the project's major activities was providing "Captioned Media Awareness Workshops" for teachers in a selected number of schools for the hearing impaired and for teachers-in-training at several colleges and universities. This manual is the result of those workshops and of work with individual teachers who tried out utilization techniques in the classroom. It contains theoretical and historical background information about captioning, illuminates the major issues in the field of captioning, and offers ideas for using captioned media as an integral part of daily classroom activities.

The Whys and Wherefores of Captioned Media

by Betsy Montandon

Rationale for Captioning

Why Captions?

Because deafness is a communication handicap, the hearing-impaired population has unique communication needs. This is especially true in relation to television. This pervasive phenomenon in our society is a major source of information and entertainment. But in its standard form it is not fully accessible to hearing-impaired viewers. While some people suggest the possibility of using speech-reading to fill in the information gaps, this is not really a viable option. Basic common sense indicates that various techniques of television editing, such as off-camera speakers, long shots, and side angle shots, present insurmountable obstacles even to the most proficient speech-reader. In addition, several research studies have proven this empirically. The studies show that under ideal conditions of lighting, distance, and clarity of the speaker, even the best speech-reader can understand only 26% of what is said (Lowell, 1959). Therefore, the important question to pose is this: since the audio track of a program must be available to ensure complete comprehension, how can it be conveyed to viewers who cannot hear it? There are two possible solutions to the question: captions and sign language interpreters.

Captions or Sign Language?

For a number of reasons, captions are the method of choice to convey a program's soundtrack to hearing-impaired viewers. Research-based support is of two types. First, studies comparing the amount of information conveyed in captioned programs vs. that in uncaptioned programs found that the former were more successful (Boyd and Vader, 1972). Other studies looked at the differences between captioned and signed presentations; those that were captioned were preferred by deaf viewers and superior in providing factual information.

Several factors support the use of captions rather than sign language. The method chosen to replace the audio portion of programs must match the diversity of communication skills exhibited by the hearing-impaired population. The use of sign language interpreters would exclude orally oriented hearing-impaired people, as well as that group of people who lost their hearing later in life from accidental causes, illness or old age. Captions can most successfully provide information to *all* hearing-impaired viewers, regardless of their preferred method of communication.

Another problem with using sign language is geographic variation in signs, corresponding to dialects in spoken language. For example, a sign in use in North Dakota might be different from that used in Florida and could thus result in confusion or misunderstanding instead of the clarification it was intended to promote.

Finally, on a more practical level, there is a problem with the visibility of the interpreter on television. A few programs, such as local news broadcasts, do allow the interpreter to appear full-screen. But in most cases, the interpreter is located in a small circle or square in the lower corner of the television screen and the finer movements of signs and/or fingerspelling are difficult or impossible to see.

The Development of Captioning

Movies, Television, and the Printed Word

The use of printed words on the screen is not new. In fact, in the days of silent movies, hearing and hearing-impaired audiences had equal access to a program when frames of words were inserted between pictures in order to clarify the action or plot. But the situation changed radically when sound was added to the movies and the printed words were dropped. Television has retained graphically displayed words in many commercials, weather forecasts and sports broadcasts. In addition, some educational programs for children such as *Sesame Street* and *The Electric Company* rely heavily on print to teach reading through the association of the spoken and written word. But the majority of television programs and movies have been viewed with incomplete or erroneous understanding by hearing-impaired people because they miss the all-important information in the audio track.

Captioned Films for the Deaf

It was not until the 1950's that experiments began in captioning films for hearing-impaired viewers. In 1958, Public Law 85-905 established Captioned Films for the Deaf as a loan service to hearing-impaired people. The idea was a successful one and today there are approximately 800 theatrical/entertainment films in an Indianapolis-based depository and 1,188 educational films in 58 depositories nationwide.

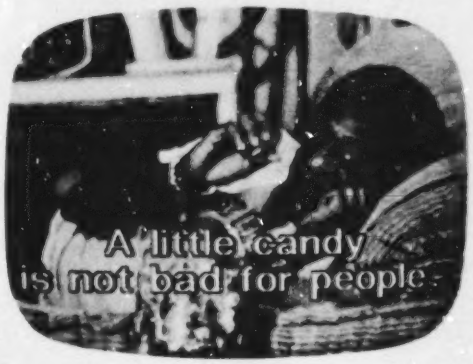
Television Captioning

In the world of television, captioning began in 1971. WGBH-TV, Boston's public television station, received federal funding for two years to caption *The French Chef*. The experiment proved that the important program content could be conveyed via captions. Fifty other programs were captioned during the next two years, but even though these shows were successfully received, hearing-impaired audiences expressed the need for captioning of news and current events programs. Thus, in 1973, under the Education of the Handicapped Act, the WGBH Caption Center received a contract to rebroadcast a captioned version of ABC's evening news.

Captioning for Children

In 1977, the Multi-level Linguistic Captioning Project was set up at WGBH to conduct research on captioning for children. Prior to the project, there had been almost no research directly related to children's captioning. The Multi-level Project focused on several areas: developing and evaluating a research-based system of writing captions at three reading levels; studying the effect of various placement techniques on comprehension; discovering the optimum rate of caption presentation; evaluating children's affective understanding of program characters; studying the effect of using syncapped programs with handicapped students and with bilingual students (syncapping is the process of replacing the original soundtrack with new audio that matches the edited captions)

After four years of conducting captioning research and, in the process, captioning 44 programs for children, the Multi-level Project changed its focus in the fall of 1980. Because teachers and students, as well as parents, need guidance and encouragement to use captioned media to its best advantage, federal funding was granted to develop a "model" for the effective use of captioned media in the education of hearing-impaired students.



Recent Developments: Closed Captioning

Originally, television captioning was of the "open" variety. In open captioning, the captions are superimposed on the picture and are visible to all viewers, hearing and hearing-impaired alike. Unfortunately, not all hearing viewers were sympathetic to the addition of captions to popular programs. They complained that the captions were distracting, especially when they rephrased the original audio track into simplified or shortened form. This criticism spawned a new idea: perhaps the captions could be broadcast invisibly and would become visible, using special equipment, only for those viewers who wanted them. This is the idea behind the "line 21" or "closed-captioning" system.

..... "closed-captioning"

PBS began experimenting with closed captioning in 1972 under a contract from the Bureau of Education for the Handicapped (BEH) of the Department of Health, Education and Welfare. In 1973, PBS received funds to develop a prototype closed-captioning system; in this system, the captions are converted to electronic signals and broadcast in a portion of the television signal, line 21, which is usually blank. While all viewers receive the signals, only those with a special decoder can convert them into captions. In 1974, PBS began over-the-air tests of the closed-captioning system, under Special Temporary Authority from the Federal Communications Commission (FCC). PBS petitioned the FCC in November 1975 for permanent authority to broadcast captioning on line 21, and in 1976 the FCC approved the use of line 21 for closed-captioning information.

Three of the four major networks, ABC, NBC, and PBS, agreed to have several hours of their programming closed captioned each week.

The National Captioning Institute (NCI), was established by HEW on March 23, 1979, to provide the captioning. In March 1980, the first closed-captioned program was broadcast. The initial 20 hours per week have gradually increased to a current total of 40. In addition, in April 1981, the WGBH Caption Center joined NCI as a source of closed-captioning services.

The home decoding equipment for line-21 closed captioning is available for purchase from Sears, Roebuck and Company, the National Captioning Institute, and several hearing-impaired consumer organizations under the trade name TeleCaption. TeleCaption decoders can be purchased either as adapter units (which can be attached to any television set) or as color TV sets with decoders built in. In addition, some cable-TV operators rent line-21 decoders, under the Colormax brand name, to their subscribers.

Most Recent Developments in Captioning Technology

It is an exciting time in the world of captioning. Line-21 closed captioning is now well established and new systems are being perfected to keep pace with our culture's high technology.

Real-time captioning is now in use and eliminates the time lag which is usually required to caption a program before broadcast. Real-time captioning permits live shows, such as news, sports and special events, to be accessible. This captioning method combines the skills of court stenographers with special computer translation systems to provide almost instantaneous captioning.

Teletext is a system which can provide text information and graphics as well as closed captioning. Teletext is a service intended for hearing and hearing-impaired viewers alike. To receive closed captions and "pages" of text information (such as news, weather reports, airplane schedules, real estate listings, etc.), the viewer's television must be attached to a special teletext decoder. CBS and NBC are currently developing nationwide teletext services. Cable teletext and regional broadcast teletext services are also now being developed.

Dual-mode captioning is a system which allows simultaneous transmission of closed captions to both line-21 and teletext decoders. This innovative technology became available in 1983 and will ultimately expand the size of the viewing audience for closed-captioned programs.

Edited or Verbatim Captions?

There are major philosophical differences in the captioning field concerning the issue of using edited or verbatim captions. In edited captions, the words from the original audio track are condensed and/or changed; in verbatim captioning, the words in the captions are kept as close as possible to what was actually spoken. Both sides of the debate agree that some editing is necessary because people speak much faster than they are able to read. While the normal speaking rate is often between 200–250 words per minute, a comfortable reading speed when there are simultaneous background visuals is 120–140 words per minute. Obviously, in order to close this gap, there must be some changes made in the captions. Therefore, when using the term verbatim, we mean that the captions are edited only minimally due to time constraints.

The argument between edited or verbatim captions actually goes deeper than merely condensing or deleting information. Editing can also include major rewriting of the spoken words into English sentences at a lower reading level. Proponents of this approach cite the often lower English and reading skills of many hearing-impaired viewers, especially children (Trybus and Karchmer, 1977). If the viewer is not able to read verbatim captions, then the English should be simplified to a level compatible with the viewer's skills. In the process,

there may be a reduction in the frustration that often accompanies the reading task and the beginning of a more positive attitude that reading can be enjoyable.

On the other hand, advocates of verbatim captioning say that hearing-impaired viewers deserve the same information as hearing viewers and not a "watered-down" version of the original. In addition, they claim that the viewer's reading skills will improve when presented with the challenge of a more difficult reading task. While, as yet, there has been little research in support of this theory, proponents of verbatim captioning claim that the viewer will rise to the occasion and successfully read and understand the captions at a higher reading level.

To complicate the situation further, even with the group that supports editing, there are two approaches. The "intuitive" approach has been used for years and is based on common sense and on an understanding of the complexity of English. Using his/her judgment, but with no standardized guidelines, the captioner replaces difficult vocabulary words with easier ones, shortens and/or simplifies sentences, and replaces or rewrites idiomatic expressions. These editing decisions are subjective and not consistent from captioner to captioner. In addition, only one level of captions results and this level might not be adequate in meeting the variable reading skills of the intended audience.

In order to standardize the editing procedure and to produce captions at levels matching the viewer's reading abilities, the Multi-level Linguistic Captioning Project, as described earlier, developed and evaluated a method of editing that could replace the older, intuitive approach. Following a set of research-based guidelines which are found in the project's manual *Readable English for Hearing-Impaired Students*, captions for selected programs were written at one or all of three levels of difficulty. Project staff controlled vocabulary, syntax and inferential content in its captioning of 44 popular commercial television programs for children.

There is not yet any agreement or standard philosophy regarding the editing of captions. Teachers should be aware that each approach, edited or verbatim, has merits and can serve a specific and positive purpose. For example, as a tool for expanding vocabulary and teaching idioms, a teacher might choose a program with verbatim captions. On the other hand, a program with edited captions could be a means to foster independent reading and viewing with little teacher intervention.

Caption-Reading Skills of Students

For years, teachers have breathed a sigh of relief when supplied with captioned media. They assume that the combination of visual information in the film or videotape and printed information in the captions will go a long way towards teaching the material. However, there is a basic assumption underlying the use of captioned media with hearing-impaired students which must be called into question. That assumption is that students understand the concept of captioning (that captions convey speech and/or important sounds) and various captioning principles (placement, identification of off-screen speakers, etc.) without ever receiving directed instruction on these topics. Hearing viewers can easily perceive the relationship between voices and captions, sounds and captions, or techniques such as left-right placement to identify speakers. But these concepts and techniques are not so apparent to hearing-impaired students. When the Multi-level Project carried out an assessment with hearing-impaired youngsters in the New England area to ascertain their level of knowledge about captioning, it became clear that instruction in the rationale and techniques of captioning should definitely be a prerequisite to the use of captions as a source of information.

Principles needing explanation include the following:

- Captions represent speech and/or sound effects.
- Words in a caption are sometimes different from the words in the original soundtrack because of editing.
- Caption placement can help identify speakers.
- Off-screen speakers and sounds are identified and captioned when they are important to the plot and/or content.
- A single sentence can extend through several captions; punctuation can be an aid in determining the end of sentences.

With a better understanding of captioning principles, hearing-impaired children will find greater comprehension and enjoyment in the ever-growing body of captioned materials available to them.

References

Boyd, J. and Vader, E. A. "Captioned television for the deaf." *American Annals of the Deaf*, 1972, *117*, 34–37.

Lowell, E. L. "Research in speechreading: some relationships to language development and implications for the classroom teacher." Proceedings of the Convention of American Instructors of the Deaf, 1959.

Trybus, R., and Karchmer, M. "School achievement scores of hearing-impaired children: national data on achievement status and growth patterns. *American Annals of the Deaf*, 1977, *122*, 62–69.

Captioned Media: Food for Thought

by Nan Decker

Introduction

Reading and an appreciation of literature, which are usually taught in schools through a language arts curriculum, are cornerstones of a child's education. From simple decoding abilities to the comprehension of literal and inferential meaning, reading skills encourage children to think creatively, to deal with symbolism, to see the world through another's eyes, to find generalizations and to draw conclusions from details. It is because of this close tie between reading and reflection that the tasks presented to reading groups in the classroom are typically called "directed reading/thinking activities."[1] Reading and literature can elevate the child's thinking from the concrete level to the abstract and can sharpen insight into human nature and life.

Yet we know how difficult it is for many deaf children to learn to read well. The statistics are disheartening: the average student graduating from a school for the deaf reads at about a fourth grade level (Trybus, 1978). And unfortunately, this figure represents a larger problem than simply low reading achievement scores. Those deaf children who fail to acquire reading skills will often be deprived of exposure to many thinking activities as well, since these activities are often taught through the printed word.

What can teachers do to promote agile thinking in hearing-impaired students? One obvious way is to base thinking activities on a skill other than reading. Deafness does not impair a child's ability to perceive and interpret visual information in his environment. Teachers of hearing-impaired students can easily introduce "directed *viewing*/thinking activities" into their classrooms based on this innate visual ability. And the visual medium we suggest that they use in these activities is captioned television and movies.[2] Captioned media, like literature, present stories which can teach the same competencies as the traditional reading lesson.

In most schools and classes for hearing-impaired children, the potential of captioned television as a teaching tool has not been realized. Very often, programs or movies are shown primarily during recreational periods, with little or no discussion of the content before or after viewing. Captioned media are too often used only during those times when students need to be occupied while teachers are busy with other activities. When captioned materials *are* used educationally, it is usually just those programs that deal with factual material-how glaciers are formed, or where lumber comes from. We know that teachers use this genre well already. We are concentrating here instead on the use of fictional, "entertainment" programs in an educational way, to impart an appreciation of form usually developed through literature.

All of the skills and concepts ordinarily taught in a language arts curriculum can be introduced through captioned materials. Story structure, theme, and characterization, which may be difficult concepts to understand when presented to the reluctant reader by the printed page, are more easily understood when the medium is video reinforced with captions. It makes sense to start children thinking about such notions as character development, points of conflict, and inferential content by using a familiar, non-threatening format such as television. We already know that deaf children enjoy TV; if anything, they watch more of it than their hearing peers (Ofiesh, 1970). Coupled with the teacher's creativity in planning lessons around this motivating medium, it represents a wonderful supplement to the more traditional curriculum.

1 *Our special thanks go to Naomi E. Singer, reading/English specialist in the Newton, MA, public schools, for her insights into the role and uses of the language arts curriculum in education.*

2 *See Kane (1980) as a resource on critical television viewing skills for general school audiences.*

For many deaf students, reading even three or four pages of a short story may be a frustrating, unrewarding struggle. Captioned media require the viewer to do some reading, but not an overwhelming amount. Once captioned materials have given an understanding of the basic issues covered in a standard language arts curriculum, the teacher may turn to stories and books as additional resources.

This chapter briefly outlines some of the skills and concepts that may be taught through captioned media viewing, along with some suggested activities for their reinforcement. Teachers will naturally find only a portion of these activities appropriate for students of a given academic level. We leave it to their judgment to decide which are suitable and which are not, and also to augment the limited number of suggestions in each section with their own ideas.

A Note on Procedure

Two very important prerequisites for effective use of captioned materials in the classroom are **teacher previewing** and **interrupted viewing.** By the first, we mean that the teacher should watch the program before its classroom presentation so that she or he is totally familiar with its content and can pick out key scenes for discussion of target concepts. Previewing is also essential for determining an appropriate break point for longer shows.

Interrupted viewing refers to the use of the pause or stop function on the videocassette recorder to freeze the image at a desired frame. The use of this simple facility goes a long way in changing merely recreational viewing to educational viewing. The teacher can pause whenever necessary or desired to ask questions, initiate discussion, and add explanation of difficult vocabulary words, twists of plot, etc. Another facility, the rewind function, allows the viewer to look back and review in the same way that the reader of the printed page can.

In the following discussion of classroom use of captioned television, we assume the teacher has chosen those concepts she or he will teach before the program is shown and makes liberal use of the pause facility to highlight details which illustrate these concepts.

A Note on Video Equipment

Perhaps one reason why captioned media are not used more extensively in the classroom is that many teachers lack familiarity with the necessary equipment. We'd like to reassure our readers that there is nothing complicated or intimidating about the machinery involved in showing these materials. Videocassette recorders are no more mystifying than audiocassette recorders.

To show videocassettes that you have either obtained on loan or taped off the air, you'll need an ordinary color television set, a videocassette recorder (VCR), and a cable to connect the two. It is helpful to set up your equipment on a media cart, which is a metal cart on wheels about 4½ feet high with two or three shelves. Put the VCR on a lower shelf and the TV on top. This elevates the television enough so that the entire class can view the program easily. Hook the cable from the outlet marked "RF Out" on the back of the VCR to the VHF antenna of the TV set. Then tune the TV to channel 3 or 4 (the one you choose will depend on the type of VCR used). If the cable you have is the eight-pin type (the plug has eight pins extending from it), there's no need to tune the TV to any particular channel. Instead, push in the button marked "VTR" on the front of the television set.

The videocassette is then simply popped into the face of the VCR. Press the "play" button to start the program. The "fast forward" and "rewind" buttons serve the same purpose as they do on an audio tape recorder. Many VCR's also have a "pause" button that allows you to freeze the picture at a desired place.

Always adjust the television for color and hue or tint, since VCR's often require different settings from ordinary television viewing. It is not usually necessary to darken the room. In fact, natural lighting often keeps students alert and allows them to communicate with each other during the show.

A Review: Skills and Concepts which may be Taught through Captioned Television

Any language arts curriculum may be adapted for use with captioned television. A given school may have devised its own curriculum or may use any basal reading series. The scope and sequence for a series provides a listing of the skills and concepts taught grade by grade, and is an excellent source of teaching ideas. In the pages that follow we have taken ideas from the Addison and Wesley Reading Program (Rowland, 1979) and the Laidlaw Reading Program (Eller, 1976). These programs categorize skills in roughly the following way:

- word decoding skills: including phonetic analysis, structural analysis, and sight recognition of words;
- comprehension: including word meaning, literal comprehension, inferential comprehension, critical and creative reading;
- study skills: including dictionary use, outlining, summarizing, making lists, etc.

The following pages are not organized according to these categories. After a brief look at the way decoding skills, word meaning and grammar can be taught through captioned television, we discuss story structure and the many skills and concepts that can be taught about it.

To illustrate activities in each section we use a program from CBS's *Young People's Special* series called "Joshua's Confusion" (hereafter 'JC'). A summary of the plot of this show is given here.

.....▶

Plot Summary of "Joshua's Confusion"

Joshua is an Amish boy of ten or eleven. Although he lives in 20th century America, he is being brought up in an 18th century way of life. Joshua can't understand why his home is so different from those of his friends. The peaceful, old-fashioned farm conflicts with the mechanized world outside.

As the show opens, Papa is driving Joshua to his public school in the family's horse-drawn buggy. On the playground, Joshua learns that his best friend, Bobby, is going to have a birthday party. Bobby really wants Joshua to come, but Joshua is not sure his father will allow him to go. Another friend, Benny, is certain that Joshua's father won't let him go. It looks as if Benny is right.

After school, Joshua works with his father in the fields. He starts to ask Papa about the party, but his father cuts him short, saying that it's time to work, not talk. At the dinner table that night with his parents and little sister Becky, Joshua tries again, but his mother and father are unyielding. They know that Bobby's family is not Amish. Papa anticipates Joshua's discomfort in a household with electricity and television. Joshua begs to be allowed to go and protests that his parents are unfair. Finally he is sent to his room.

At school the next day, Bobby and Benny want to know whether Joshua will come to the party. Benny teases Joshua about his family and its strict Amish rules. Joshua feels pressure from these taunts and from Bobby's genuine desire to have him at his party as his best friend. Joshua lies: he says he has permission to go.

That night, Joshua pretends to be tired and goes to bed early. His parents think he might be sick or resting for the next day's farm work. Joshua sneaks out of his bedroom window, crawls down the roof and runs to Bobby's, where the party is in full swing. The kids play with slot cars, read comic books and watch TV. Joshua doesn't know what to make of these activities.

When Papa discovers that Joshua is not in bed, he's furious. He barges into the midst of the fun at Bobby's to announce, "Joshua, we will go home now." Stunned, the boys watch Joshua leave with his father. In the carriage on the way home, Papa tells Joshua that because he did something wrong he will have to be punished. Joshua is very upset. He leaps from the carriage and runs away into the rainy night.

The next morning, we see a muddy and bedraggled Joshua approach his father, who is working in the fields. Papa embraces his son and begins to talk. He explains that he too was young once and couldn't understand his old-fashioned parents. He understands, he says, how very hard it is to grow up different from other Americans. But now that he's a man, Papa feels that their Amish life is better than other people's. Papa hopes that when Joshua grows up, he will feel the same way.

Coming
to my party Friday?

Joshua, no.
The answer is no.

Josh
is here!

You lied to me, Joshua.

May I go to
Bobby's house

It isn't fair!

The boy is gone!

It's not easy
to live the Amish life.

Go to your room!

Joshua!
We will go home now.

Yes, I can come
to your party.

Decoding Skills, Word Meaning, and Grammar

Decoding Skills

In decoding, the reader simply converts the written word into a spoken or signed equivalent. Attaching meaning to the decoded word is a more advanced skill than simple decoding: the child may be perfectly able to decode a paragraph but still not know what it means. By making students more aware of the structure of words, you make it easier for them to attach meaning to them. The following exercises, based on the captions in 'JC', develop the awareness of word structure.

- Find the base forms of words. For example, what is the base of "confusion?" What verb does the word "carriage" come from?
- Find the two words in the compound words "sunrise," "birthday," and "old-fashioned."
- What is the suffix of the word "electricity?" What base word does it come from? What is the suffix of "planted?" The prefix of "unhappy?"
- What smaller word do you see in "television?"

Word Meaning

Captions can be used as a source of vocabulary study just as any text can.

- During teacher previewing, pick five to ten words with which the class is unfamiliar. Before the students see the program, do regular dictionary work with these words, have students write sentences using the words, etc. During viewing, stop the tape at each word and ask for its definition.
- Develop the skill of using context to infer meaning. For example, explain to the class that they can use visual context to help them understand words. Joshua's father tells his son, "We must plow now." Stop the tape and ask the students how many meanings they know for the word "plow." Some may know the term as it refers to a machine for removing snow or as a technique in skiing. Point to the visual context of this scene. The two are standing in a field in the spring. Is the word likely to refer to either of these functions here? If not, what could it mean?

Grammar

Captions are a convenient vehicle for many kinds of language lessons. Any concept that is ordinarily taught through text can be taught just as easily—and probably with more fun—through captions. Here are a few suggestions:

- Find pronoun referents, the person or thing to which a pronoun refers. This is a simple task when the referent is on-screen. Wind the tape forward or backward to find off-camera referents.
- Use captions to practice writing direct and indirect discourse. Watch Joshua say, "May I go to Bobby's house?" and ask the children to write: "Joshua asked, 'May I go to Bobby's house?'"
- Ask more advanced students to change this to indirect discourse: "Joshua asked if he could go to Bobby's house."
- Pause the tape and use one scene in a writing drill on the use of prepositional phrases to describe spatial relationships in the scene. For example: "The chair is next to the door."; "The lamp is on the table."
- Use captions as sample sentences for exercises in all written grammar drills: pluralization, subject-verb agreement, sentence analysis, tense formation, etc.

Papa said: God made those pretty _____ . *(flower or flowers)*

Becky said: The jelly _____ really good. *(was or were)*

Mama said: Becky taste the jelly. *(change to past tense)*

Story Structure

Unlike most hearing children, many deaf children have few, if any, stories read to them during their early years. Therefore, it is not surprising that when hearing-impaired students begin to read in school, their lack of familiarity with story structure causes confusion. This section begins with a brief description of story structure and a note on selecting programs with relatively uncomplicated structures. We then consider the major story components in turn and suggest classroom activities to help students understand the nature and function of each.

The Components of a Story

In traditional terms, a story consists of a conflict which leads to rising action, a climax and then a resolution of conflict in the falling action. According to newer models (Stein and Glenn, 1977), a story contains a **setting** and an **episode.** In the setting, the main characters are introduced and information is given about the social, physical (geographical), and temporal (time) contexts of the story. An episode consists of:

- an initiating event (conflict), which causes the main character to respond to it;
- an internal response, which may include the setting of a goal by the character;
- an attempt by the character to attain the goal;
- the consequences of the attempt, including attainment or non-attainment of the goal; and
- the reaction of the character to the consequence.

The simplest stories contain just one episode, while in more complicated stories, one or more episodes may be embedded within another.

"Joshua's Confusion" is a story with one episode containing clearly delineated parts:

- **Initiating event:** Bobby invites Joshua to his birthday party and Papa refuses to let him go.
- **Joshua's internal response:** He vows to go to the party.
- **Attempt:** He sneaks out of his room in the middle of the night.
- **Consequence:** Papa goes to Bobby's house to retrieve his son and punish him.
- **Reaction:** Joshua runs off into the night.

Three other very important aspects of a story, which prevail through the whole, are characterization, conflict, and theme. All three require the ability to draw generalizations from details, to distill into a few words the essence of a person or situation. In developing an awareness of character, conflict, and theme, the student transforms the story from merely a plot to an observation about life and human nature.

Considerations in Program Selection

For students who are just beginning a language arts curriculum, it is probably best to use a program with a simple story structure. This means that the show should have a limited number of characters, whose relationships to each other are clear. The physical and temporal settings should not require a great deal of world knowledge on the part of the viewer. So, for example, one would not want to show a lower school group a story in which the setting of the French Revolution plays an important role in the episode. We would also advise teachers against selecting programs in which the parts of the episode do not follow regular order. Shows with flashbacks scramble the structure and may cause confusion. Likewise, stories in which two seemingly unrelated episodes with separate sets of characters eventually intertwine are best left for older, more sophisticated viewers.

And finally, the conflict which drives the action forward should be of a type that is meaningful to young viewers. Story conflict can take many forms. It can be a struggle internal to one person, a clash of opinions, or a physical fight between two characters, among other things. In general, we would not expect children to enjoy stories where the conflict is entirely intellectual or verbal. An example of such a story is Edward Albee's *Who's Afraid of Virginia Woolf?* where two characters argue in a living room all night. In 'JC', the conflict on one level is highly intellectual, in that Joshua is rebelling against the traditional values of his community. But this kind of internal conflict is very familiar to growing children and therefore should not be problematic. The conflict also manifests itself on the level of action: Joshua decides to go to a party against his father's wishes. This physical manifestation of the conflict adds to the program's appeal for young viewers.

Classroom Activities for Teaching Story Structure

Setting

Since setting is usually determined by visual clues, it is a good starting point for a discussion of story structure. Physical and temporal settings are presented separately here for clarity, although no doubt in classroom work, the two may often be considered together.

Physical Setting

To appreciate the contribution physical setting makes to a story, students should be aware of the effects that the geography and environment can have on the characters' lives. The following exercises help to develop this kind of awareness.

- As the program is being shown for the first time, put the tape in pause during the opening scenes. Ask the students where they think the story takes place. Such things as landscape, buildings, weather conditions and costumes are all clues. What visual details support their conclusion? In 'JC', the opening scenes depict a rural scene. The narration never mentions a specific locale. Ask the students where they think Amish country is and why.
- Compare the program's physical setting to the area where your students live. Ask them to note interesting similarities or differences.
- Write to the Chamber of Commerce of Lancaster, PA, to gather more information about the setting. Find library books about the Amish and look the topic up in an encyclopedia.
- Ask students to note when the physical setting changes. These changes can signal to the viewer that an important lapse of time has occurred, or that new characters are about to be introduced. Is the new setting far removed from the old or nearby?
- Make maps of the setting and use them as the basis for board games. A map of 'JC' might contain Joshua's and Bobby's houses, with a trail in between, and the barn and school along the trail. You might then make a set of cards with instructions on them like, "Joshua falls down while he is running to Bobby's house: go back two spaces." or "Joshua slides down the roof to the grass: move ahead three spaces." The first player to get from Joshua's house to Bobby's wins.
- Make models of the physical setting. These may range from shoe-box sized representations to dioramas that fill the entire classroom.
- Encourage the children to talk about the symbolism or meaning of place names. For example, on a map of the Amish area in Pennsylvania, students will note that one town is called Paradise. Define this word. Why is this name fitting for a religious community like the Amish?
- How would the story change if the physical setting were different? For example, could 'JC' take place in an urban environment? Why or why not? Would the plot be much different if it took place in a tropical setting like Hawaii?

Setting, continued

Temporal Setting

The temporal setting places the story at a particular time in history, the present, or future. An appreciation of temporal setting involves an understanding of significant events in the world or a certain locale during that period.

- During the opening scenes of a program, stop the tape and ask the children when they think the action takes place. Ask them to support their opinion with details from the scene, such as physical objects that connote a certain period of history.
- After viewing the complete show, list objects from the program particular to the temporal setting. Are there castles, covered wagons, Apollo missiles? Do a categorization activity with this list—group all objects concerned with home life together, all objects concerned with work together, etc. If the temporal setting is historical, ask the class to note those objects which are no longer in use today. What have these obsolete objects been replaced with? Why have the objects changed over the years? Which object does each student prefer, the old-fashioned one or its modern equivalent? Ask them to imagine objects which might perform the same function in the future. Have the children note some things in the video which have *not* changed since the historical period—food, for example, or articles of clothing.
- Estimate the amount of time the action spans. You might want to compare and contrast two shows, one which spans a few hours or days and one like "Roots," which spans generations.
- Pinpoint the action on a time line with other important events that the class is familiar with, such as the Revolutionary War, Columbus' voyage to America, their birthdays, their parents' birthdays.
- Discuss ways in which costumes give clues to temporal setting. Note that one can't always rely on costuming clues to place the story in time. For example, in 'JC' Joshua wears clothes which are very different from the other boys'. The Amish preserve the old ways of dress. Look in the encyclopedia to find when the Amish sect began and when they settled in America. How do students think the Amish dressed at the time of settlement? Why isn't Joshua wearing pantaloons or a powdered wig?
- How would the program change if the temporal setting were different? What problems would Joshua face if the story took place one hundred years ago, when nobody had electricity, cars or television, and everyone dressed somewhat like Joshua does now? Try to find pairs of TV shows or movies, like "West Side Story" and "Romeo and Juliet," where the basic plots are the same but the temporal setting differs. The classic movie "The Prince and the Pauper" and the ABC AFTERSCHOOL SPECIAL "P.J. and the President's Son," both available from Captioned Films for the Deaf, are one such pair. In the former, the son of an English king and a poor boy change places. The latter takes place in modern-day Washington, D.C. Use this kind of activity as a basis for discussion of the way that human nature remains the same over the centuries, and the way that great themes endure.

The Episode

The episode components of initiating event, internal response, attempt, consequence and reaction are the "what happened" of the story. It is probably unnecessary or even undesirable to use these terms when discussing the plot with children. There are many activities which the class can do that will make the structure of the story clear.

Sequencing

The order in which events occurs matters. Students must learn to remember all of the important events in the story and to remember them in the correct sequence. Sequencing is one of the most fundamental skills underlying story appreciation. The next few activities stress the importance of sequence in stories:

- Ask the students to name the events of the story and sequence them in chronological order.
- Pick captions from key scenes in the program and present them in scrambled order. Tell the students, individually or collectively, to order them correctly. From 'JC' you might provide the following list:

  Papa: Joshua is gone!

  Narrator: Joshua and his family are Amish.

  Joshua: May I go to Bobby's house and sleep there?

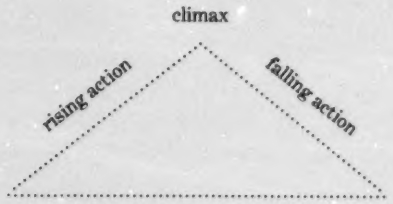
  Papa: You lied to me, Joshua.

  Joshua: I'm back, Papa.

  Bobby: Coming to my party Friday?

  Papa: The answer is no!

- Let the children draw pictures that illustrate the main events in the story. Have them compare their picture stories. Do they all give the same information? Ask them to sequence their pictures and write their own captions for them. Is the information in the pictures and in the captions the same or different?
- If the story spans years or generations, ask the class to arrange events from it along a time line.
- The terms rising action, climax and falling action suggest the visual representation of story structure as a pyramid shape. Ask the students to arrange the list of ordered captions or events in such a shape, with the climax at the peak.



The class may come up with more than one such diagram and chances are that they will all be right.

- Ask the students to retell the story as a group, with one child beginning it, a second picking up where the first left off, until the story is complete.
- Dramatize the story in class.

The Episode, continued

Conflict

A second group of activities that help students to understand story structure is concerned with conflict. Note that in order to say that we have a story at all, there must be a point of conflict. A story consists of establishing a conflict and then resolving it in some way. As mentioned earlier, there are many kinds of conflicts in stories. The conflict can be a physical confrontation between two or more people, a strong difference of opinion between two characters, a struggle within a single person with divided interests or mixed feelings, a feud between two groups, a clash when one person opposes the wishes of his/her community, etc. Furthermore, there is often more than one conflict in a story. For example, in 'JC' the overt conflict is between Joshua and his father, but there is also a conflict within Joshua himself over what kind of life to lead, Amish or worldly. Another conflict which is not developed to any great degree involves Benny and Joshua.

To fully appreciate stories, students must become adept at identifying conflicts and their resolutions. The following exercises will help them to do so.

- Have the class act out various conflicts, ranging from those they are likely to have experienced in everyday home or school life (a parent won't let them go on a trip; two students gang up on another in the dorm) to those not based on personal experience (a person is wrongly convicted of a crime; an employee finds out his boss is cheating his customers). Who is involved in each conflict? How is it resolved? Have the class propose alternative solutions.
- Instruct the students to keep a record of all the conflicts they experience or witness on a given day. Point out that they may range from very minor conflicts (Mom wants Sue to wash her hair at night so she won't tie up the bathroom in the morning, while Sue prefers to wait until the morning) to quite important ones (Jim's best friend's parents are getting divorced and the friend is caught in the middle). Imagine a possible solution to each conflict.
- Present a brief paragraph like the following:

  Joshua was a ten-year-old boy. He lived in Pennsylvania. One day in April, Joshua woke up at 7:00. He got dressed, washed his face and brushed his teeth. After breakfast, he went to school. He came home at 2:30.

  Ask the students if they think this paragraph is a story or not. Is there a conflict here? Ask them to arrange the events of the story in a pyramid shape. No doubt they will have difficulty doing so. Help them to understand why. Now ask them to identify the conflict in 'JC'. Refer to your pyramid of the program's events. Note that the major conflict first appears on the "rising action" line of the pyramid.
- After viewing a program, ask the class the following questions: Who is disagreeing with whom? Is the conflict a physical, mental or emotional one? How is the conflict resolved? Can you think of other ways it might be settled? How many conflicts can you identify in the program?
- Pinpoint scenes that dramatize the conflict or harmony between two characters. Is there a visual symbol for the conflict? If so, how is it used? In the opening scenes of 'JC' there is a long shot of Papa's carriage and the school bus traveling down the road side by side. The scene presages the conflict to come between father and son. Identifying such visual symbols is preparation for recognition of symbolism in print.

▶

The Episode, continued

Implied Meaning in the Episode

So far in this section, we have dealt with information that is overtly given in the program—sequencing events and identifying conflict. The next group of exercises encourages the class to think about information that is not explicitly provided in the show. These exercises help develop the students' inferential skills—the ability to draw further conclusions from evidence and fill in implied meanings.

- Imagine how the story would change if one of its components were different. For example, ask students what would happen in 'JC' if:

  Papa had given Joshua permission to go to the party?

  Joshua had hurt himself while climbing off the roof?

  Joshua had broken his leg while running to the party in the middle of the night?

  Papa had not noticed his son's disappearance from home?

  Joshua had gotten lost in the woods after running away from his father?

- During the first viewing, stop the tape frequently and ask students to predict the outcome of a particular action. For example, in 'JC', stop the tape at the point where Papa denies his son's request to go to the party and sends Joshua to his room. Ask, "What do you think Joshua will do next?" What kind of evidence (insights into character or human nature in general) can they provide to support their prediction?

- From whose point of view is the story told? In literature, a narrator establishes a point of view. This narrator may be one of the characters in the story or an independent, outside agent. In television, there might also be a narrator, or more commonly, the camera may see the world from where a certain character stands. Ask the class through whose eyes we see the world of 'JC'. Once the point of view has been established, ask them to retell the story from another character's viewpoint. Dramatize the story from this alternative perspective. For example, how would 'JC' differ if it were told from Bobby's or Papa's perspective? What would be a good title for the alternative story the class acts out?

- Explain the difference between fact and opinion. Which kind of statement is each item on a list like the following?

  Joshua did not obey his father.

  The Amish don't use electricity.

  Joshua's father is too strict.

  Amish children don't have any fun.

- It is important in reading to be able to judge the importance of details and to understand the function of each bit of information. Not every paragraph on the page advances the plot; some passages create a mood or develop a character. The same holds true for television, with an added consideration. In books, one is quite free to digress and expound, to write prose for the beauty of the prose. Television is, relative to print, a much more expensive medium. Therefore, we would expect there to be fewer extraneous details in a television program and a clear function for each scene. Television viewers must learn to recognize the purpose for which information is presented. In order to

The Episode, continued

practice this skill, show the class a scene from a program it has already watched. For example, in 'JC', there is a scene where Papa, Mama, Joshua and his little sister Becky eat dinner by lamplight. Joshua has already asked his father about the party earlier in the day and his father has told him that they must wait to discuss the matter. The dialogue at dinner is as follows:

Mama: Becky and I made jelly—16 jars! Becky tasted the jelly.

Papa: Good?

Becky: The jelly was really good, Papa!

Mama: Did you see our pretty flowers?

Papa: Yes. We should thank God for them. Right, Joshua?

Stop the tape at this point and ask the class, "Is this scene very important in the story? Would you understand this program if we left out this scene?" (You might even play the tape skipping over the scene.) At this point, you might review plot summaries that the class has written to see if any of the students included this interlude. Once there is a consensus that the scene is not crucial to the plot, ask the class why they think it was included in the show. The scene highlights the simplicity of Amish life. Household chores and nature are the basis of dinner-table conversation, which provides a contrasting background to Joshua's request to join in the outside world.

Characterization

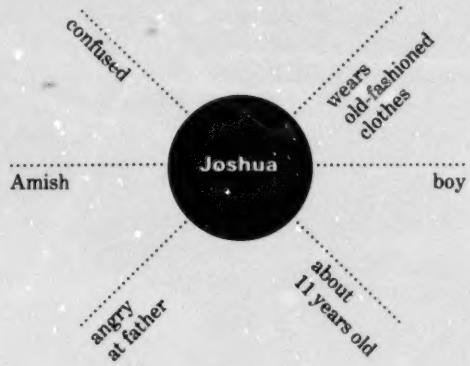
Another very important facet of story appreciation is an understanding of characterization and character development. Stories give children a chance to scrutinize human behavior in a controlled situation of a limited duration. The observation skills and language a student learns by watching a character develop on screen can be carried over into real life, allowing that child to express feelings and ideas s/he might otherwise never have had words for. The following activities suggest ways the teacher can help the class become more aware of each character's qualities, motivations and conflicts.

- List all the characters in the program. Describe their physical characteristics. Pick one outstanding physical characteristic for each name on the list.
- Costumes help to define character. Describe the way each character dresses. Does anything about each player's clothing give clues to the kind of person he or she is? For example, a black leather jacket might connote a tough, belligerent attitude, while a prim and proper "stuffed shirt" might wear a three-piece suit.
- Classify the characters in a number of ways—as adults vs. children, males vs. females, good guys vs. bad guys, etc.
- Sometimes a character's name has special significance. You might look up names in the Oxford English Dictionary or any book of names to see if this is so for the show you are working on.
- Ask the children to compare the way they would react in a certain situation to the way the main character reacts. What would they do if their father refused to give them permission to go to a party?

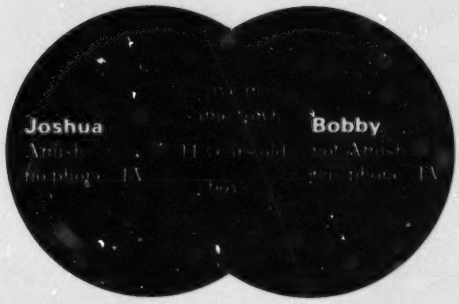
▶

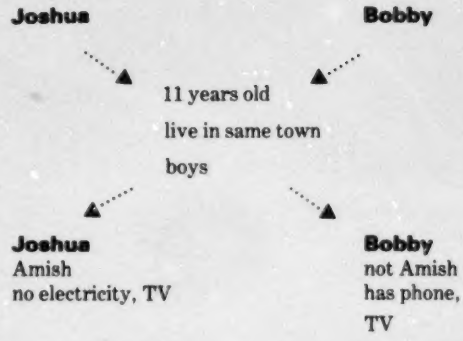
The Episode, continued

- Ask the class to make a 'spidergram' for each main character. Draw a circle on the board and have each child in turn provide a characteristic that becomes a 'leg' extending from the circle. For example, Joshua's spidergram might look like this:



- It may be difficult for deaf children to understand the concept of personality at first. To introduce this concept, start with programs where characters are portrayed absolutely: the Wicked Witch in The Wizard of Oz is bad; Pollyanna is good, etc. This activity can be a good incentive for vocabulary building.
- Determine the characters' motivations. Why do they act the way they do in certain situations? In 'JC', when confronted with Benny's scorn toward his father, Joshua says his father has given him permission to go to the party. Why does he lie like this?
- Require that conclusions be backed up with details from the program. If the class decides that Joshua's father is too strict, what makes them believe this? Ask students to cite relevant scenes.
- A character's words sometimes conflict with facial expression. Note instances where a character says one thing but means another.
- Does the main character change over the course of the program? Do Joshua's reactions, opinions, and/or feelings at the end of the show differ from those at the beginning?
- How would the story change if the character were different? What would happen if Joshua were black, or only five years old, or a girl?
- Characters are often presented in pairs, as though they are either twins, or psychological and physical opposites. This notion may be explained diagrammatically in a number of ways.

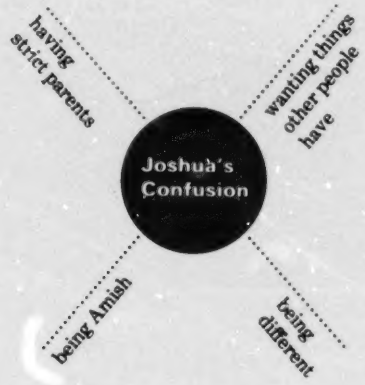




Theme

Deaf readers may have difficulty understanding the concept of theme. Maybe your students have worked on finding the main idea in short paragraphs. Extend this skill to longer printed texts by finding the main idea in television programs first. Below are some exercises for this purpose.

- Ask your students what the program was about. Make a list of their suggestions, perhaps in spidergram form.



- Now break the most interesting suggestions down into specific instances.

- Discuss the meaning of the show's title. Does it reflect the theme? Is it a good or bad title? What other titles might the show have?
- Once the theme has been established, look for visual symbols of it as you watch the program a second time.
- Watch other programs with similar themes. Discuss ways in which the shows are the same and different.

Conclusion

Captioned media can be used as a child's first exposure to the concepts ordinarily taught through printed stories, or they can be used simultaneously as these same skills are presented through reading. One interesting use of captioned materials is to have the students read a story and also view a captioned version of it. The Captioned Films for the Deaf theatrical catalog, for example, lists a number of children's classics for which simple and/or advanced books could be obtained—*Heidi*, *The Wizard of Oz*, *Black Beauty*, *Alice in Wonderland*, *Bambi*, *Lady and the Tramp*, *Pinocchio*, and *Charlotte's Web* are just a few of the titles available. The video support provided by the captioned version might inspire students to work through the printed text. There is probably no need to fear that repetition of the story (within limits) will bore readers or viewers—we know that children enjoy being told or reading a story over and over again as they work to master its content.

The ideas we have presented here are just a beginning. Teachers will no doubt want to supplement our suggestions with additional activities. Captioned media can bring many hours of entertainment and exciting learning to hearing-impaired students. Approach these materials with a sense of discovery and above all, enjoy them!

References

Eller, W. and Hester, K. (eds.) *The Laidlaw Reading Program Scope and Sequence.* River Forest, IL: Doubleday, 1976.

Kane, H. (ed.) *Critical Television Viewing.* New York: Cambridge, A Basic Skills Company, 1980.

Ofiesh, G. "The potential of television for teaching the deaf." *American Annals of the Deaf*, October 1970, *115(4)*, 577–586.

Rowland, P. T. *The Addison and Wesley Reading Program Scope and Sequence.* Reading, MA: Addison and Wesley Publishing Co., 1979.

Stein, N. and Glenn, C. "The role of structural variation in children's recall of simple stories." Paper presented at the Society for Research in Child Development, New Orleans, 1977.

Trybus, R. "What the Stanford Achievement Test has to say about the reading abilities of deaf children," in Reynolds, H. and Williams, C. (eds.), *Proceedings of the Gallaudet Conference on Reading in Relation to Deafness.* Washington, D.C.: Gallaudet College, May 1978.

Sources of Captioned Media

Name	Address and Phone	Type(s) of Captioned Media	How to Obtain
Modern Talking Pictures Service, Inc./Captioned Films for the Deaf.	5000 Park Street, North St. Petersburg, FL 33709 (800) 237-6213	1 1,100 16mm educational films 2 800 16mm theatrical/training and adult continuing education (ACE) films 3 44 Multi-level 3/4" videocassettes (see Multi-level listing below)	For loan only. Must have account number Apply to Florida address.
The Multi-level Captioning Project	The WGBH Caption Center 125 Western Avenue Boston, MA 02134 (617) 492-2777 x2810 (617) 491-5724(TDD)	Popular children's programs 44 3/4" videocassettes captioned at one or all of three reading levels	For loan only Must have CFD account.

	Restrictions on Use	Cost	Supplementary Materials
1 Educational titles ordered from one of 58 regional depositories nearest your school. 2 Theatrical/training, ACE and Multi-level from: Captioned Films for the Deaf, Suite 223 624 East Walnut Street Indianapolis, IN 46204 (317) 637-8204	1 Shown to group with at least one hearing-impaired individual. 2 No admission fee can be charged. 3 Cannot be shown on TV 4 Various responsibilities of borrower outlined in full in catalogs.	Return postage at library rate ($.30–.40 per film) Return postage at library rate ($2-$2.50 per film)	1 Separate catalogs for educational titles and theatrical/training titles. 2 Lesson guides for captioned films published annually for films captioned during that year
Order from: Captioned Films for the Deaf, Suite 223 624 East Walnut Street Indianapolis, IN 46204 (317) 637-8204	Similar to standard CFD obligations of borrowers.	Return postage at library rate.	1 Listed in both CFD catalogs. 2 *Readable English for Hearing-Impaired Students:* manual of guidelines for editing materials at three levels of difficulty.

Sources of Captioned Media, continued

Name	Address and Phone	Type(s) of Captioned Media	How to Obtain
Gallaudet Media Distribution	c/o Gallaudet College Library 7th & Florida Avenues, N.E. Washington, D.C. 20002 (202) 651-5580 (voice) (202) 651-5579(TDD)	Various historical, educational and theatrical titles 16mm films, 3/4" U-matic videocassettes (not all programs in both formats)	For loan or sale from address listed at left.
Adapted Media Exchange Project	Division for Media Development & Services, N.T.I.D. One Lomb Memorial Drive Rochester, NY 14623	36 adult-level informational films, filmstrips or slide shows	Contact individual distributors listed in catalog.
International Film Bureau, Inc.	332 S. Michigan Avenue Chicago, IL 60604 (312) 427-4545	Curriculum areas include art, social studies, language arts, science, mathematics 16 mm color films and videocassettes	Order from address at left.
Screen News Digest Codacap (TM) Coded-Captioned Films	Hearst Metrotone News Division of the Hearst Corp. 235 East 45th Street New York, NY 10017 (212) 682-7690 x278	Volume 1: energy, business and economics, science, politics. (Concepts and facts are coded and identified.) 8 16mm films	Order from address at left.
National Geographic Society Educational Services	Department 81 Washington, D.C. 20036 (301) 948-5926	Natural history and science Limited number of captioned 16mm films and filmstrips	Order from address at left.

	Restrictions on Use	Cost	Supplementary Materials
1 Loan requests should be made at least 8 weeks ahead of use date. 2 Loan orders filled on first-come, first-served basis. 3 Normal use period is one week. 4 Shipped and returned by United Parcel Service (UPS)	Cannot be copied, broadcast, or shown where admission is charged.	Return shipping and insurance ($300 for 16mm film; $50 for videocassette). Cassette prices vary from $37 to $165, depending on length.	Catalog of films and videotapes available to the public. Catalog of captioned off-the-air broadcast recordings to be shared with non-profit educational institutions serving the deaf *only*.
		Prices vary according to length.	16 mm film available for rental from several film rental libraries and from free loan services. Catalog lists.
		$250 each or $1,500 for all.	
			Other National Geographic films available from Captioned Films for the Deaf (see above).

Bibliography

While the basic concept behind captioning is relatively simple, that of conveying the soundtrack of a program in printed words on the screen, there is actually much more to captioning than that. Spoken communication is a complex phenomenon and captioners must devise ways to convey aspects of speech such as intonation, rhythm and dialects. When writing and displaying captions, there are a number of factors which must be considered: linguistic complexity, placement of the captions on the screen, rate of presentation, the relation of the captions to the underlying video, the effectiveness of using special techniques such as colors, moving captions, etc. Techniques must be developed to deal with speakers or sound effects that happen off-screen, music, narration, etc.

Researchers have looked into many of these areas and have conducted studies ranging from controlled laboratory evaluations to subjective viewer preference surveys. The bibliography which follows lists articles and books from 1970 to the present which pertain to the field of captioned media.

"Advertising interest in captioned TV shows grows." *Advertising Age*, April 10, 1978, 59.

"Affecting the human potential of the deaf student: another role for educational media." *American Annals of the Deaf*, October 1972, complete issue.

Agency for Instructional Television, et al. "Affective films for the hearing-impaired child: a test of captioned INSIDE/OUT programs." Indiana: Agency for Instructional Television, 1977.

American Educational Research Association, et al. "The effect of reading level, visual display and cognitive style on learning from captioned instruction." Toronto: AERA, 1978.

Andrews, J. "Our eyes are always on television." *American Annals of the Deaf*, 1980.

Austin, B. "The deaf audience for television: a bibliographic essay on empirical research, 1950–1978." *Journal of Communications*, Spring 1980, *30(2)*, 25–30.

"Back to media: how to use better what you already have." *American Annals of the Deaf*, 1980, *125(6)*, complete issue.

Ball, C. "Project ABCQ: Caption Center questionnaire results." Boston: WGBH-TV, 1974.

Ball, J. "Television for the deaf." Paper presented at the 48th NAEB Convention, Las Vegas, October 31, 1972.

Bellefleur, P. "Radio/teletype communications systems: an adjunct to television captions for the deaf." Philadelphia: Pennsylvania School for the Deaf, 1978.

Bickman, L., Roth, T., et al. "An evaluation of captioned television for the deaf: final report." Evanston, IL: Westinghouse Evaluation Institute, June 1979.

Blatt, J. and Sulzer, J. "Captioned television and hearing-impaired viewers: the report of a national survey." *American Annals of the Deaf*, December 1981, *126(9)*, 1017–1023.

Boatner, E. "Captioned films for the deaf." *American Annals of the Deaf*, August 1981, *126(5)*, 520–525.

Boyd, J. and Vader, E. "Captioned television for the deaf." *American Annals of the Deaf*, February 1972, *117(5)*, 34–37.

Braverman, B. "Captioning research: a summary of the results of a cooperative research effort between the WGBH Caption Center and the Department of Instructional Television, National Technical Institute for the Deaf." Rochester, NY: NTID, December 1980.

Braverman, B. "The effects of caption language level and viewer reading ability on comprehension of captioned television." Final report for The Caption Center, WGBH, Boston.

Braverman, B. "The effects of caption rate and information density on comprehension of a video presentation." Final report for The Caption Center, WGBH, Boston.

Braverman, B. (ed.) "Program of captioning research." Rochester, NY: NTID, 1979.

Braverman, B. "Review of literature in instructional television: implications for deaf learners." *American Annals of the Deaf*, August 1977, 395–402.

Braverman, B. "Television captioning strategies: a systematic research and development approach." *American Annals of the Deaf*, December 1981, *126(9)*, 1031–1036.

Braverman, B. and Cronin, B. "Television and the deaf." *Journal of Educational Technology Systems*, 1978–79, *7*, 7–18.

Braverman, B., Cronin, B. and Hertzog, M. *Captioning: Shared Perspectives* Proceedings of a National Captioning Conference, NTID, Rochester, NY, June 1–3, 1978.

Braverman, B., et al. "A report on two pilot studies in captioning research." Rochester, NY: NTID, 1977.

Braverman, B. and Harrison, M. "The acquisition of idioms from a captioned television program." Rochester, NY: NTID, 1977.

Braverman, B., Harrison, M., Dowaliby, F. and Bowker, D. "The effect of reading level, visual display and cognitive style on learning from captioned instruction." Paper presented at the American Educational Research Association, Toronto, March 1978.

Braverman, B., Heffernan, P. and Montandon, B. "Toward effective utilization of captioned materials in the classroom." Paper presented at CAID Convention, Rochester, NY, June 1981.

Braverman, B. and Hertzog, M. "The effect of caption rate and language level on comprehension of a captioned video presentation." Final report for The Caption Center, WGBH, Boston.

Braverman, B. and Hertzog, M. "Synchronizing audio with edited captions: the effects upon the comprehension of deaf and hard-of-hearing viewers of children's entertainment programs." Final report for The Caption Center, WGBH, Boston.

Brown, L. "Captions for deaf to be shown on TV." *The New York Times*, February 28, 1974, 66.

Caccamise, F., Blasdell, R. and Meath-Lang, B. "Hearing-impaired persons' simultaneous reception of information under live and two visual motion media conditions." *American Annals of the Deaf*, June 1977, 339–343.

Caldwell, D. "The Public Broadcasting Service closed-captioning project: a status report." Paper presented at A. G. Bell Association national convention, Boston, 1976.

Caldwell, D. "Use of graded captions with instructional television for deaf learners." *American Annals of the Deaf*, August 1973, *118(4)*, 500–507.

Canon, G. "Television captioning at the Clarke School for the Deaf." *American Annals of the Deaf*, 1980, *125(6)*.

Caption Center, et al. "Hearing-impaired viewer reactions to alternative fonts for television captions." Boston: WGBH-TV, 1978.

"The Captioned ABC Evening News: Common questions and accurate answers." *The Deaf American*, March 1975, *27(7)*, 3–4.

"The Captioned FRENCH CHEF: A study of the deaf and hearing-impaired audience." Cleveland, OH: WVIZ-TV.

"Captioned TV for deaf soon to be announced." *Broadcasting*, March 12, 1979, 42.

"Captioned TV in primetime hours." Boston: WGBH-TV, September 8, 1976.

"Career education and educational media for the deaf student." *American Annals of the Deaf*, October 1973, complete issue.

Carson, L., "The captioning process: Production techniques at the National Technical Institute for the Deaf." Rochester, NY: NTID, Spring 1978.

"Communicative television for the deaf student." *American Annals of the Deaf*, October 1970, complete issue.

Cronin, B. J. "Closed-caption television: today and tomorrow." *American Annals of the Deaf*, 1980, *125*, 726–728.

Davila, R. "Effects of changes in visual information patterns on students' achievement using a captioned film and specially adapted still pictures." Unpublished doctoral dissertation, Syracuse University, 1972.

Decker, N. "Characteristics of hearing-impaired television viewers." Boston: The Caption Center, WGBH, 1979.

"Developments in communication technology for the hearing impaired." *American Annals of the Deaf*, 1978, *123(6)*, complete issue.

Dickerson, L. "Survey of hearing impaired." Madison, WI: WHA-TV, 1977.

Dooley, J. "An evaluation of WGBH-TV multi-level linguistic complexity and synchronous captioning techniques with educable mentally retarded children." Final report for The Caption Center, WGBH, Boston.

"Door is opened on closed captioning." *Broadcasting*, March 26, 1979, 32–33.

Earley, S. "Captioning at WGBH-TV." Boston: The Caption Center, WGBH-TV, 1978.

Earley, S. "Captions bring ZOOM to hearing-impaired children." *The Deaf American*, May 1976, *28*, 15.

"Educational technology for the 80's." *American Annals of the Deaf*, September 1979, *124(5)*, complete issue.

Federal Communications Commission. Amendment of part 73 of the rules to establish requirements for captioning of emergency messages on television. 61 FCC. 2d(1977), 18–22, Docket #20659.

Federal Communications Commission. Amendment of subpart e, part 73, of the Commission's Rules and Regulations, to reserve line 21 of the vertical blanking interval of the television broadcast signal for captioning for the deaf. 63 FCC.. 2d(1977), 378–392, Docket #20693.

Fischer, D. "Improvement in the utilization of captioned films for the deaf." Doctoral dissertation, University of Nebraska, University microfilms, Ann Arbor, MI: No. T1-19482, 1971.

Flagg, B., Carrozza, F. and Jenkins, R. "Perception and comprehension of captioned television: A pilot study." Unpublished manuscript. Cambridge, MA: Harvard University, Center for Research in Children's Television, May 1980.

Flagg, B., Carrozza, F., Fenton, T. and Jenkins, R. "Hearing-impaired children's eye movement patterns in response to captioned television." Paper presented at annual meeting of NAEB, October 1980.

Flood, J. "WGBH captioning materials: Reading-disabled population evaluation report." Final report for The Caption Center, WGBH, Boston.

Freebairn, T. *Television for the Deaf: Selected Projects.* New York: New York University, Deafness Research and Training Center, 1974.

Freebairn, T. and Sternberg, M. "Television for hearing-impaired audiences." *The Deaf American*, December 1974, *26*, 23–24.

Freebairn, T., Stewart, A., Delk, M. and Gentile, N. "Evaluation of THE CAPTIONED ABC NEWS: Final report." New York: New York University, Deafness Research and Training Center, 1976.

Gallaudet, et al. "A survey of media equipment available in special educational programs for hearing-impaired students, 1977–78." Washington, D.C.: Gallaudet College, 1978.

Gates, R. "The differential effectiveness of various modes of presenting verbal information to deaf students through modified television format." Unpublished doctoral dissertation, University of Pittsburgh, 1970.

Gates, R. "The reception of verbal information by deaf students through a television medium—a comparison of speechreading, manual communication and reading." Proceedings of the CAID Convention, Little Rock, AK, 1971.

Getson, P. "Captioning methodologies for enhanced reading level and vocabulary development." Paper presented at the American Educational Research Association, San Francisco, 1979.

Getson, P. "Factors influencing the content acquisition of hearing-impaired adolescents using selected types of captioned video materials." Paper presented at annual meeting of CAID, Austin, TX, 1979.

Getson, P. "Perspectives for captioning: the captioned film and vocabulary project at the Model Secondary School for the Deaf." Washington, D.C.: MSSD, 1978.

Goldfeder, C. and Goldfeder, J. "Television: a teaching tool for deaf students." *American Annals of the Deaf*, August 1975, *120(4)*, 406–407.

Good, J. "Television's potential to deaf persons." *American Annals of the Deaf*, August 1973, *118(4)*, 496–499.

Graham, L. and Loysen, G. "Realizing the full potential of captioned education films for the deaf through lesson guide utilization." *American Annals of the Deaf, 1980, 125(6)*, 817–822.

Hakuta, K. "Evaluation of WGBH synchronous captions with bilingual students." Final report for The Caption Center, WGBH, Boston.

Harmonay, M. *Promise and Performance: Children with Special Needs.* Cambridge, MA: Ballinger Publishing Company, 1977.

Harrison, M. and Braverman, B. "Legibility factors related to the captioning of video displays: a review of the literature." Rochester, NY: NTID, 1978.

Herman, V. and Venus, P. "Survey of the hearing impaired." Madison, WI: WHA-TV, 1977.

Higgins, E. "Television for deaf viewers." *Gallaudet Today*, Washington, D.C.: Gallaudet College, Winter 1973.

Hutchins, J. and Osterer, C. "Captioning processes at The Caption Center, WGBH, Boston." Boston: WGBH-TV, 1978.

Jackson, R. "Television and the deaf." *The Deaf American*, April 1974, *26(8)*, 10–11.

Jackson, W. and Perkins, R. "Television for deaf learners: a utilization quandary." *American Annals of the Deaf*, October 1974, *119(5)*, 537–548.

Kelley, R. "Has educational technology misplaced the deaf learner?" *American Annals of the Deaf*, August 1972, *117(4)*, 427–430.

Lance, W. D. "Technology and media for exceptional learners: looking ahead." *Exceptional Children*, 1977, *44*, 92–97.

Leahy, R. and Percy, C. "The fate of line 21: Will the deaf 'hear' TV?" *The Washington Post*, September 7, 1976, 19A.

Levitov, B. "Evaluation of THE CAPTIONED ABC NEWS." Boston: WGBH-TV, 1976.

McCoy, E. B. and Shumway, R. "Real-time captioning—promise for the future." Alexandria, VA: Teledyne/Geotech, Microcomputer Design Center, 1979.

Miller, R. M. "A study to determine the efficacy of captioned and interpreted versions of an instructional television program." Doctoral dissertation, Temple University, University Microfilms #7910013, 1979.

Murphy-Berman, V. and Whobrey, L. "The impact of captions on hearing-impaired children's affective reaction to television." Final report for The Caption Center, WGBH, Boston.

Murphy-Berman, V., Jorgensen, J. and Shulman, J. "Evaluation of a multi-level linguistic approach to captioning television for hearing-impaired children." Final report for The Caption Center, WGBH, Boston.

National Captioning Institute, Department of Research. Various articles on captioning research. Falls Church, VA: NCI, 81/1–3, 81/5–16, 1981.

Nix, G. "The effect of synchronized captioning on the assimilation of vocabulary and concepts." Doctoral dissertation, University of Oregon. Ann Arbor, MI: University Microfilms International #72-8584, 1971.

Nomeland, R. "The effects of inserts and captions on learning with deaf subjects using motion and still pictures." Unpublished doctoral dissertation, Syracuse University, 1973.

Norwood, M. J. "Captioned films for the deaf." *Exceptional Children*, 1976, 43.

Norwood, M. J. "Comparison of an interpreted and captioned newscast among deaf high school graduates and deaf college graduates." Unpublished doctoral dissertation, University of Maryland, 1976.

Nygren, C. and Withrow, F. "Handicapped children and television." Columbus, OH: Battelle Center for Improved Education, 1975.

O'Bryan, K. "Captioning television programs for the deaf: report of basic findings." Toronto: Ontario Educational Communications Authority, 1975.

O'Bryan, K. "Eye movement research report on captioning television programs for the deaf." Toronto: Ontario Educational Communications Authority, 1975.

O'Bryan, K. and Silberman, H. "Summary of research findings for Children's Television Workshop." Ontario: Ontario Institute for Studies in Education, 1974.

Ofiesh, G. "The potential of television for teaching the deaf." *American Annals of the Deaf*, October 1970, *115(4)*, 577–586.

Parlato, S. "Those other captioned films . . . captioned educational films." *American Annals of the Deaf*, 1977, *122(1)*, 33–37.

Panko, J. "The learning effects of visually mediating verbal presentation formats on post-secondary students." Unpublished doctoral dissertation, University of Pittsburgh, 1975.

Perkins, R. "Proceedings of the first national conference on television for the hearing impaired." Knoxville, TN: December 14–16, 1971.

Peterson, P. C. "The influence of horizontal camera angle on deaf viewers' understanding of and preference for a television presentation using simultaneous sign language and speech." Unpublished doctoral dissertation, Syracuse University, 1976.

Propp, G. "An experimental study on the encoding of verbal information for visual transmission to the hearing-impaired learner." Unpublished doctoral dissertation, University of Nebraska, 1972.

Public Service Programs of Gallaudet College. "Now see this: a survey of television stations programming for deaf viewers." Washington, D.C.: Gallaudet College, 1977.

Raymond, S. "How about that: TV programs for deaf students." *American Annals of the Deaf*, September 1980, *125(6)*.

Reiner, L. and Rockwell, D. "A study of instructional film captioning for deaf students." Unpublished manuscript, Rochester, NY: NTID, 1971.

Rosenbloom, B. "Guidelines to writing or rewriting materials for deaf students with special emphasis on syntax." Unpublished manuscript. Washington, D.C.: Model Secondary School for the Deaf, Gallaudet College, 1978.

Seager, D. E. "A media experience in deaf education." *American Annals of the Deaf*, 1977, *122*, 462–467.

Sendelbaugh, J. "Television viewing habits of hearing-impaired teenagers in the Chicago metropolitan area." *American Annals of the Deaf*, August 1978, *123(5)*, 536–541.

Sendelbaugh, J. and Powell, J. "Television for the deaf: a comparative study of eleven nations." *American Annals of the Deaf*, February 1978, *123(1)*, 31–34.

Shaw, G. "Television viewing habits of hearing-impaired high school students in a residential school setting." Department of Radio-TV-Film, University of Texas, Austin, 1979.

Shroyer, E. "A comparative analysis of the readability and reading rates of captioned films." Doctoral dissertation, University of Pittsburgh, University Microfilms International, 1973.

Shroyer, E. and Birch, J. "Captions and reading rates of hearing-impaired students." *American Annals of the Deaf*, 1980, *125*, 916–922.

Shulman, J. "Analysis of the linguistic and non-linguistic parameters affecting multi-level captioning for hearing-impaired children." Boston: The Caption Center, WGBH, 1977.

Shulman, J. and Decker, N. "Multi-level captioning: a system for preparing reading materials for the hearing impaired." *American Annals of the Deaf*, September 1979, *124(5)*.

Shulman, J. and Decker, N. (eds.) *Readable English for Hearing-Impaired Students.* Boston: The Caption Center, WGBH, 1980.

Shulman, J. and Wilson, K. "A multi-level linguistic approach to captioning television for hearing-impaired children." Boston: The Caption Center, WGBH, 1978.

Stillman, D. "Line 21, closed captioning of television programs: A progress report." *American Annals of the Deaf*, 1978, *123*, 723–725.

Stepp, R., et al. "Symposium on research and utilization of educational media for teaching the deaf." *American Annals of the Deaf*, 1970, *115*, 543–656.

Stuckless, E. R. and Loutiel, L. "Real-time graphic display." Unpublished manuscript, Rochester, NY: Rochester Institute of Technology, 1972.

Stuckless, E. R. and Pollard, G. "Processing of fingerspelling and print by deaf students." *American Annals of the Deaf*, 1977, *122(5)*, 475–479.

"Subtitles for TV and films." *American Education*, March 1977, *13*, 18–22.

Teachman, G. "A profile of the 8 to 10-year-old deaf child's leisure activities and TV viewing habits." Toronto: Ontario Educational Communications Authority, Office of Project Research, report #3, January 1980.

Teachman, G. and Duggan, K. "The effectiveness of captioned television programs for deaf and hearing-impaired children." Toronto: Ontario Educational Communications Authority, August 1977.

"Television and the deaf." *Gallaudet Today*, Washington, D.C.: Gallaudet College, Winter 1973, *4(2)*.

"Television for deaf audiences: A summary of the current status." New York: New York University, Deafness Research and Training Center, April 1972.

Thomson, P. "Closed captions for TV." *Today's Education*, September/October 1981, 31–33.

Torr, D. "Captioning project evaluation final report." Washington, D.C.: Gallaudet College, Office of Educational Technology, December 1974.

Waugh, M. "Caption writing techniques." Paper given at CEASD Convention, Washington, D.C., 1978.

Wells, D. "Captioning for the Deaf: a PBS progress report." *SMPTE Journal*, September 1980, *89*, 656–658.

White, A. and Stevenson, V. "The effects of total communication, manual communication, oral communication and reading on the learning of factual information in residential school deaf children." *American Annals of the Deaf*, 1975, *120*, 48–57.

Wilson, K. and Nolen, W. "Multi-level synchronous captioning with mentally retarded, bilingual, reading disabled, hard-of-hearing and deaf children." Final report for The Caption Center, WGBH, Boston, November 1979.

Winslow, L. "Formative evaluation of captioned ZOOM." Boston: The Caption Center, WGBH, 1976.

Withrow, M. "The effects of different modes of captioning motion picture films on the learning of visual symbol association tasks of deaf adolescents." Unpublished doctoral dissertation, Catholic University of America, 1973.

WXXI-TV. "News for the deaf: WXXI-TV." Rochester, NY: 1972.

Ziev, J. "Sesame Street captioned for the deaf." *American Annals of the Deaf*, October 1970, *115(6)*, 630–631.